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Development of Sparkol Videoscribe Learning Media to Improve Drawing Skills in Illustration Sketch Subjects at SMK Mechanics Cibinong

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Abstract

This study aims to develop digital learning media in the form of Videoscribe Sparkol in learning valid and effective illustration sketches, and can improve students' illustration drawing skills on cartoon drawing materials. The development of Sparkol videoscribe learning media follows the ADDIE development model. The subjects of the study were material experts, instructional design experts, and learning media experts as well as students of SMK Mechanic Cibinong. The samples in this study were class X DKV 1 as an experimental class and class X DKV 2 as a control class. The findings of this study show that it shows that this videoscribe Sparkol learning media has been feasible and effective and can facilitate the ability to draw illustrations.

Keywords: illustration, Videoscribe, development, drawing

I. Introduction

Education is a human effort to cultivate and develop innate potentials both physical and spiritual in accordance with the values that exist in society and culture. So that the progress of a nation cannot be separated from the educator factor, because education has an important role in efforts to improve human resources (HR) which is an important element in the development of a nation. In order to achieve educational goals, the implementation of education needs to be adapted to the development and changes of the developing community. Schools as the only formal educational institutions organized by the government play an important role in realizing the goals of national education. One way to achieve this goal is through interaction in the learning process at school which is carried out consciously, systematically and directed towards changing student behavior as expected.

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Education is a conscious and planned effort by creating a learning atmosphere in the form of a learning process held by formal institutions in the form of schools. The most supportive aspect in the delivery of learning is the aspect of learning methods and learning aids. Learning is a process of communication interaction between learning resources, teachers and students and other components to achieve learning objectives (1). Learning is used to show educational efforts that are carried out intentionally, with goals set in advance before the process is implemented and controlled.

Media is an intermediary or messenger of messages from the sender to the recipient of the message (2).

The world of education is currently entering the era of the media world, where the learning process demands to be more directed to the use of media and it takes the use of electronic equipment that can increase attractiveness and under-

standing in learning (3). The most sophisticated percentage media are media that can convey five forms of information in the form of: images, lines, symbols, sounds, and movements. Media that includes the five forms of information are live images (film) and television (video). Not all types of television and movies can convey all types of information (4). This Sparkol videoscribe media can combine and synergize media consisting of text, graphics, photos, sounds, and music that can be programmed based on learning theory (5).

Media is a communication channel tool. The word media comes from Latin which is the plural form of the word medium. Literally, media means intermediary, that is, intermediaries between the sources of messages (a source) with the recipient of the message (a receiver). Some things included in the media are film, television, diagrams, print media (printed material), computer, and so on. Media is a tool that can help in needs and activities, which can make it easier for anyone who uses it. More specifically, the definition of media in teaching processes tends to be defined as technical, photographic, or electronic tools for capturing, processing, and reassembling visual or verbal information (6). The existence of media is felt to be very helpful in the teaching and learning process, this is because teachers will be easy in their teaching activities and can increase students' attention to their learning activities.

Learning media is a tool in the teaching and learning process. In other words, anything that can be used to stimulate thoughts, feelings, attention and abilities or skills. There are many types of learning media that we can meet. Existing learning media can be utilized optimally to support the learning process. The function of learning media is to attract students' interest in the learning material presented. In fact, learning media is still often neglected for various reasons. Even though this does not need to happen if each facilitator already has knowledge and skills about learning media.

The types of Learning Media are; 1) Audio Media, Audio media serves to channel audio messages from the message source to the message recipient. Audio media is closely related to the sense of hearing. Audio media can convey verbal messages (spoken language or words) as well as non-verbal (sounds and vocalizations). Examples of media such as radio, tape recorders, telephones, language laboratories, and others. 2) Visual Media, Visual media is media that only relies on the sense of sight. This type of visual media displays the material using a projection device or projector. Visual media also serves to attract attention, clarify the presentation of ideas, describe facts that may be easy to digest and remember if presented in visual form. Types of visual learning media are divided into two, namely: Still visual media For example: photos, illustrations, flashcards, selected images and cutouts, frame films, rngkai films, OHP, graphs, charts, diagrams, posters, maps, and others. While motion visual media, for example: moving projection images such as silent films and so on. 3) Audio Visual Media, Audio visual learning media is media that is able to display sound and images. From its characteristics, audiovisual media are divided into 2, namely: Silent audiovisual media For example: silent TV, sound series films, sound pages, sound books. While motion audio-visual media for example: TV movies, TV, sound films, sound images, and others. 4) Multipurpose Media, Multifaceted learning media is a media that is adapted to the potential in an area, around schools or in other locations or in the community that can be used as teaching media. Examples of various types of learning media include whiteboards, three-dimensional media, reality, and learning resources in the community. 5) Photographic Images, Photographic images are usually obtained from several sources, for example from newspapers, paintings, cartoons, illustrations, photographs. All media obtained from various sources can be used by teachers or facilitators in teaching and learning activities with specific objectives. There are five requirements for photographic images, including: 1. The photographic image must be sufficient. 2. The drawings must meet the requirements of quality artistry. 3. Photographic images for teaching purposes should be large enough and clear. 4. The validity of the image, i.e. whether the image is true or not. 5. Captivate the child's attention, this tends to the things he observes, for example, animals, trains, airplanes and so on.

Learning media is very instrumental for the success of the teaching and learning process. The role of learning media is mainly to help deliver material to students (7). In this case, it can be seen that the level of quality or learning outcomes is

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also influenced by the quality of the learning media used. To get good quality learning media in order to have a significant influence on the teaching and learning process, it is necessary to select and plan the use of good and appropriate learning media (8). The selection of the right learning media makes learning media effective to use and not in vain if applied. (2) explained that the media selection criteria stem from the concept that learning media are part of the overall instructional system. So some criteria that need to be considered in choosing good learning media are as follows: 1) in accordance with the learning objectives. 2) Practical, Flexible, and Lasting. 3) Able and Skilled to Use. 4) Target Grouping. 5) Technical Quality.

Learning Videos are one of the learning media from many learning media, learning videos are very supportive of the learning process that is effective, fun, interesting, and gives a different impression to students (9). Learning videos are one of the media that have audio (sound) and visual (image) elements. As a learning medium, videos play a role in providing information from teachers to students. Video media for the learning process is very useful and has quite an advantage in the learning process. It can be seen that the video can make a substitute for the learning process that is difficult to see in the human eye, for example the material of the digestive process, breathing, and others. The existence of learning videos in difficult practice can be facilitated by the existence of videos by applying illustration videos. Videos can be viewed repeatedly if students still don't understand. This is expected to encourage and always increase student motivation in learning by using learning videos. Basically, the learning video aims to make it easier for students to understand the subject matter in the distance learning process with the application of videos.

Videoscribe is another name for Whiteboard animation video or often referred to as sketch vidios, doodle vidios, video scribing or explainer videos, but most of us are comfortable calling it Whiteboard animation (whiteboard animation). Whiteboard animation is an artist making sketch paper of pictures and text on a blackboard, or a type of canvas or canvas. The whiteboard is used to illustrate a narrative or a script. The painter processed accordingly from the script from beginning to end.

The results of the script can be edited for the duration of its appearance so that it matches the delivery of the material. The appearance of Whiteboard Animation is more accurately called Time-Lapse or Stop Motion Videos because the use of animation is rarely used. Audio visual learning media is considered appropriate because it can combine several types of media into one unit and students can respond to the learning media. The advantages of using Sparkol videoscribe software can be used to create effective, practical and interesting learning media so that drawing learning is easier for students to understand and allows students to learn independently, grow memory levels, and be more efficient and effective (10).

II. Research Method

The type of research to be carried out is the R&D research and development method (Research and Development). To be able to produce certain products, research is used that is a needs analysis and to test the product so that it can function in a wide community, research is needed to test the product. Research and development that produces certain products for the field of educational and social administration is still very low even though many certain products in the field of education and social that need to be produced through Research and Development (11). So that the development of this teaching video is designed with research and development methods.

This research uses the ADDIE development model with research steps, namely; Analysis, Design, Development, Implementation. The instruments used are validation sheets for design experts, media experts, material experts, student response validation sheets, question validation sheets, and product effectiveness testing sheets.

III. Results and Discussion

A. Data Description

1. Analysis

The development of Sparkol Videoscribe Learning Media to Improve Cartoon Drawing Skills in Illustration Sketch Subjects at SMK Mechanic Cibinong is based on the results of

interviews in the field. Based on the results of the interview, it was found that students had difficulty in drawing skills in the illustration sketch subject. Students also still have difficulty in distinguishing elements of the picture or object to be drawn. So that students find it difficult to start creating good drawing, in the subject of Illustration Sketch. Most of the students' ability to draw is still low, while judging from the infrastructure facilities students are given the flexibility to bring laptops, mobile phones and are supported by good internet network facilities. In fact, this can be used by teachers and students in improving student learning outcomes.

The first step taken by researchers in developing Videoscribe Sparkol learning media is to analyze needs and goals. In this case the researcher tries to find out; 1) What material is taught in learning; 2) Looking at student learning outcomes on formative assessments; 3) Teaching materials used; 4) Available facilities and infrastructure; 5) Problems and difficulties that arise; 6) Efforts are made to address the problem; 7) Expectations for learning.

The efforts made by the author to find out this are; 1) Interview with the Head of DKV Department Program; 2) Interview to Illustrative Sketch Subject Teacher; 3) See the results of students' work in drawing cartoons; 4) Interviews to class X students in the DKV department; 5) Conduct instructional analysis of Sketch Illustration subjects.

The results of the interview and the results of the analysis that have been carried out by the author on the syllabus and objectives of the Class X Illustration Sketch subject majoring in visual communication design are as follows; Department of Visual Communication Design, Visual Communication Design (DKV) is a branch of design that studies the concept of communication and creative expression, techniques and media by utilizing visual or visual elements to convey messages for certain purposes (information purposes or persuasion purposes, namely influencing behavior). What is interesting from here is that a DKV scholar must be able to process the message effectively, informatively and communicatively. Many basic things are learned in the DKV study program. Develop visual language forms (picture play), process messages (word play) both for social and commercial purposes, from individuals or groups addressed to other groups. Visuals are creative and innovative, while the core message must be communicative, efficient and effective in supporting each other to be conveyed well to the target. The scope of communication design work is very broad, including: ranging from product/food labels, logo design that portrays an institution/company (branding), promotional packages and campaigns for a program, to making advertisements in mass media, etc. Basically, Graphic Communication and Visual Communication Advertising processes visual language on static / silent media. Communication skills, typography, illustration, photography are factors that must be mastered. Graphic Designers are able to create logos, magazine / newspaper designs, signs (sign systems), packaging designs, product promotion packages and others with their expertise.

What is studied in the Visual Communication Design department includes the concept of design science which studies the concept of communication and creative expression, techniques and media by utilizing visual or visual elements to convey messages for certain purposes (information purposes or persuasion purposes, namely influencing. While studying Multimedia Communication leads to dynamic media based on time and sound (audio). Animation, web design, interactive media to film directing are examples of multimedia designer jobs. The basics of visual communication are applied dynamically in multimedia works. The interests and talents possessed by students are very large in the Visual Communication Design major, the percentage is very large related to digital works or applying digital advances.

For digital sustainability, almost all can use it well, but with competence, manual skills are still far away. Illustration Sketch Subject, because in this subject basic material related to design is studied, from the beginning of manual work to digital processes. The drawing process is a process that requires very gentle and meticulous stages and requires seriousness in the process of its activities.

The learning media used are still few of them, models, youtube links, google links and learning videos but there are some media that are still not appropriate to be used in learning media.

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In the section of making manual works, one of them is when drawing cartoons in the subject of illustration sketches. Own buildings, comfortable classrooms, department laboratories and free WiFi facilities as one of the technology supports and almost all students have android mobile phones, and students consider it important to do assignments, not concerned with how good and according to the criteria.

2. Design

Instructional analysis is a stage of the process that is the entirety of the presentation of how the designer determines the main components of the instructional goal through the usefulness of objective analysis and how each step in the goal can be analyzed to identify subordinate skills or skills (12). The results of the instructional analysis of the development of the Sparkol Videoscribe Learning Video to Improve the Ability to Draw Cartoons in the Illustration Sketch Subject at SMK Mechanic Cibinong are explained through the competency map below:

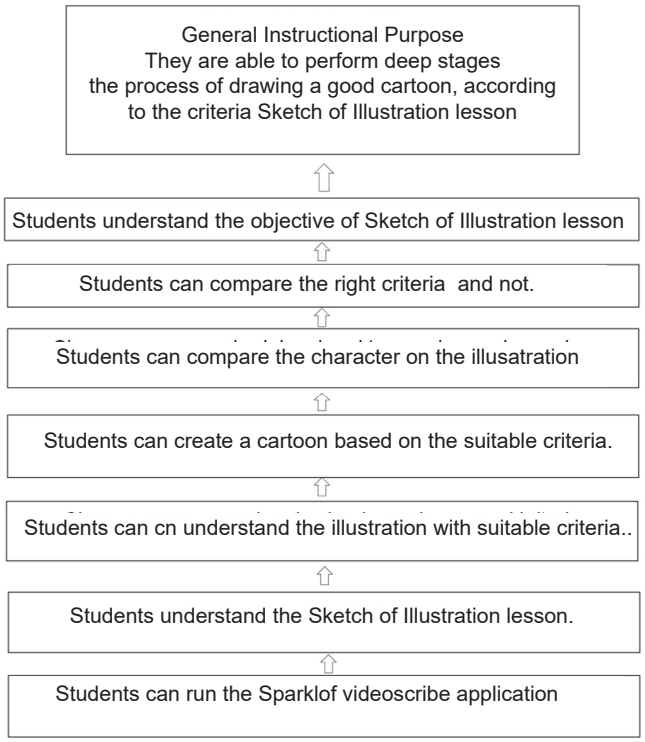

Figure 1. Competency map for Learning Media development

Based on the schema of the illustration sketch learning material above, it aims to make students gain knowledge about the subject of illustration sketching related to the drawing process. More fully described as follows; 1) Students are able to recognize cartoons. 2) Students are able to compare cartoon drawings with others in illustration sketch lessons according to their group. 3) Students understand the elements of drawing cartoons. 4) Students are able to make cartoon drawings according to criteria. 5) Students are able to have competence in cartoon drawing skills according to learning objectives.

The following presents the learning outcomes of subjects, subject descriptions, and abilities expected in this study.

Table 1. Achievements, Description and Learning Abilities

1	Subject Learning Outcomes	Students are able to understand the concept of illustration
2	Eye Description Lesson	contains theoretical and practical material on the basics of illustration which includes general insights, the creation process, as well as illustration techniques and techniques that use digital technology, as well as their application to several Visual Communication Design media
3	Drawing	Is a creative activity to form images or images that convey ideas, ideas, and symbols as a form of expression using various stroke techniques and various drawing tools.

Based on the observation of the learning process, by conducting interviews with teachers and grade X students of SMK Mechanic Cibinong obtained the following data; 1) The age of students ranges from 15- 16 Years. 2) The level of ability to operate android media is classified as Understand. 3) Students prefer learning using digital facilities. 4) Students have no barriers in accessing and using technology to learn. 5) Students have complete enough equipment to study online (laptop, android phone).

Table 2. Student characteristics

No	Analyzed Aspects	Analysis Results
1	The main group of students of class X	Class X students majoring in DKV at SMK Mechanic Cibinong
2	general characteristics	Age 15-16 years Male students Language: English
3	Number of students	29 people
4	Experience level	The ability to operate android is quite good and understands Learning Media used is andorid based
5	Student attitudes	Students are enthusiastic about learning using digital and fun learning Students have difficulty drawing illustrations

The purpose of developing Sparkol Videoscribe Learning media to improve the ability to draw cartoons in the Illustration Sketch subject at SMK Mechanic Cibinong is that students are able to be skilled well when drawing, and develop the ability to think critically, communication, collaboration, creativity (4C) through an honest, independent, and responsible attitude correctly. The formulation of learning objectives for each subject is presented in the following table:

Table 3. Formulation of Learning Objectives of the Subject

No	Subject Matter	Learning Objectives
1	Illustration	Students are able to recognize the types of illustration images
2	Compare cartoon images that fit the criteria and those that do not yet	Students are able to compare good pictures and those that are not good
3	Making Cartoon Sketch Drawings	Students are able to create cartoon designs Students are able to complete a cartoon drawing according to the criteria

3. Development

a. Formative Tests

The development of formative tests is carried out for the purposes of expert review (material, media, learning design) and trials to goals (one to one, small groups and large groups). The instrument used to see the feasibility of the learning prototype is an instrument on the guidelines for implementing learning media evaluation (13).

b. Summative Test

At this stage, question development is carried out to assess student learning achievement which is carried out with a post test. Questions are developed in accordance with learning outcomes and serve to measure the effectiveness of learning carried out by students.

After knowing the fality of the media used, namely android that can be connected to the internet or network so as to allow products that are connected to the network or online. This stage will also provide an overview of the process of measuring or evaluating learning, such as examples given on live products or using online features.

4. Implementation

Before the Sparkol videoscribe learning media is implemented, an expert review is first carried out by experts. This trial by experts aims to assess the feasibility of blended learning development products from aspects of material, media and learning design using assessment instruments based on guidelines for the implementation of learning media evaluation.

Material Expert Validation Test Results

The feasibility of Android-based Sparkol videoscribe learning media is based on assessments from learning material experts. The results of the assessment by validators can be seen in Appendix D.2. The following are the results of the validity test by the expert validator of the learning material.

Table 4. Results of Validity by Learning Material Experts

No	Variable Validity	Value Validity	Criterion
1	Didactic Terms	**91,11%**	Valid
2	Construction Requirements	**95.55%**	Very valid
Overall Ideal Percentage		**93,33%**	**Very valid**

Based on Table 4. The assessment of learning media Sparkol Videoscribe by learning material experts was declared very valid with an average validity score of 93.33%.

Media Expert Validation Test Results

The feasibility of Android-based Sparkol videoscribe learning media is based on an assessment from learning media experts. The validation carried out by validators is an assessment of the Sparkol videoscribe learning media on every aspect asked on the assessment sheet. The following are the results of the product validity test in the form of Sparkol videoscribe learning media by learning media expert validators.

Table 5. Validity Results by Learning Media Experts

No	Validity Assessment Indicators	Value Validity	Criterion
1	Media display	90,00%	Valid
2	Product quality	92,14%	Very valid
3	Media hint layout	89,87%	Valid
Overall Ideal Percentage		**90.67** %	**Highly Valid**

Based on Table 17, the assessment of Android-based Sparkol videoscribe learning media by

learning media experts is included in the very valid category with an average validity value of 90.67%, then comments and suggestions are used as material for the improvement of the developed Sparkol videoscribe learning media.

Design Expert Validation Test Results

The feasibility of Sparkol videoscribe learning media is based on the assessment of instructional design experts. The validation carried out by validators is an assessment of Android-based Sparkol videoscribe learning media on every aspect asked on the assessment sheet. The following are the results of the product validity test in the form of Android-based Sparkol videoscribe learning media by instructional design expert validators.

Table 6. Results of validity by design experts

No	Validity Assessment Indicators	Value Validity	Criterion
1	Aspects of Needs analysis	86,67%	Valid
2	Aspects of learning design	90,00%	Very valid
3	Product development aspects	90,00%	Very valid
4	Aspects of use	95,00%	Very valid
5	Assessment aspect	93,33%	Very valid
Overall Ideal Percentage		**92%**	**Highly Valid**

Based on Table 6. The assessment of Sparkol Videoscribe learning media by learning media experts is included in the very valid category with an average validity value of 92%, then comments and suggestions are used as material for the improvement of the developed Sparkol Videoscribe learning media.

One to One Test Results

After the Android-based E-module was validated by validators and revised, then the Sparkol videoscribe learning media was tested on two groups of students as many as 3 students representing low, medium and high ability levels. After being tested on 3 students, this Sparkol videoscribe learning media was first revised before being tested on small groups. Here are the results of the one to one trial.

Table 7. One to One Test Analysis Results

No	Assessment Aspect	Value	Criterion
1	Student Interest and Display of learning media Sparkol videoscribe	92.38%	Excellent
2	Process of Use	83,33%	Good
3	Model Android	96,67%	Excellent
4	Time	100%	Excellent
Overall Ideal Percentage		**91,33%**	**Excellent**

Based on Table 7. it is clear that the percentage of one to one tests is included in the very good category with an average value of 91.33%.

Small Group Test Results

After the Android-based Sparkol videoscribe learning media was validated by validators and revised, then the Android-based Sparkol videoscribe learning media was tested on two groups of students as many as 7 students representing low, medium and high ability levels. After being tested on 7 people, this Android-based videoscribe Sparkol learning media was first revised before being tested on small groups. Here are the results of the small group test.

Table 8. Small Group Test Analysis Results

No	Assessment Aspect	Value	Criterion
1	Student Interest and Display of learning media Sparkol videoscribe	93,88%	Excellent
2	Process of Use	93,33%	Excellent
3	Model Android	95,71%	Excellent
4	Time	97,14%	Excellent
Overall Ideal Percentage		94,43%	Excellent

Based on Table 8. It is clear that the percentage of small group tests belongs to the very good category with an average score of 94.43%.

Large Group Test Results

After a small group trial, a large group trial was carried out. Large group trials were held 4 times with a total of 29 students. After learning the android-based Sparkol videoscribe learning media and filling out an assessment in the form of a student response questionnaire which was carried out to assess the validity of the android-based Sparkol videoscribe learning media. Here are the results of the large group trial.

Table 9. Large Group Test Analysis Results

No	Assessment Aspect	Value	Criterion
1	Student Interest and Display of learning media Sparkol videoscribe	95,17%	Excellent
2	Process of Use	95,06%	Excellent
3	Model Android	94,60%	Excellent
4	Time	93,10%	Excellent
Overall Ideal Percentage		**94,86%**	**Excellent**

Based on Table 9. It is clear that the percentage of large group tests belongs to the very good category with an average score of 94.86%.

Product Effectiveness Test Results

Researchers analyzed aspects of the effectiveness of Sparkol videoscribe learning

media by comparing the posttest scores of experimental classes and control classes. After the data results are normal and homogeneous, it will be continued using the t test. The results are as follows:

Table 10 Test -t Posttest Score

t_{hitung}	t_{tabel}	Information
2,72	2,01	There are differences

It turned out to be t_hitung>t_tabel . This means that there is a difference in ability in drawing between class X DKV 2,72>2,011 Visual communication design as an experimental class that applies Sparkol videoscribe learning media and class X DKV2 as a control class that applies conventional learning.

B. Discussion

Development of Sparkol Videoscribe Learning Media to Improve Cartoon Drawing Skills in Illustration Sketch Subjects at SMK Mechanic Cibinong using the ADDIE model. The feasibility level of Sparkol Videoscribe Learning Media to Improve Drawing Skills in Illustration Sketch Subjects at SMK Mechanic Cibinong is determined based on the results of the assessment of learning material experts, learning media experts and learning design experts. The results of expert testing of learning materials obtained a percentage of 93.33%. For testing by learning media experts, a percentage of 90.67% was obtained. Testing by instructional design experts obtained a percentage of 92%. Based on the test results of the three experts, Sparkol Videoscribe Learning Media to Improve Drawing Skills in Illustration Sketch Subjects is categorized as 'very good' so it is suitable for use in learning illustration sketches in the Visual Communication Design department of SMK Mechanics Cibinong. Furthermore, Sparkol Videoscribe Learning Media to Improve Drawing Skills in Sketch Subjects Illustrations on cartoon drawing material were declared very good in one to one trials with a percentage result of 91.33%. The results of small group trials with an ideal percentage of 94.43% and a very good category, while in large group trials with an ideal percentage of 94.86% with a very good category. This shows that the developed Sparkol Videoscribe Learning Media can attract students' interest and is easy to use in helping the learning process.

Sparkol Videoscribe Learning Media to Improve Drawing Skills in Illustration Sketch Subjects at SMK Mechanic Cibinong on the material Drawing cartoons is declared effective. This is shown after participating in learning activities using Sparkol Videoscribe Learning Media to Improve Drawing Skills in Illustration Sketch Subjects on Cartoon drawing material, t test results with dk=52 and significant levels or , then obtained 5%0,05t_tabel=2,01. It is known that namely t_hitung>t_tabel 2,72>2,01. It was concluded that there was a significant difference in drawing ability between the experimental class and the control class. After participating in learning using Sparkol Videoscribe Learning Media, the average test score of students' drawing skills is higher than conventional learning. This shows that Sparkol videoscribe learning media is effective and can improve students' ability to draw.

IV. Conclusion

From the results of the description of the data that has been described with the discussion carried out in accordance with the theory and previous research that has been carried out, it can be concluded that the development of Sparkol videoscribe learning media which in this study was carried out at the Cibinong Mechanical Vocational High School can be significantly said to be feasible and effective to be used in the implementation of the learning process and is able to improve students' drawing skills. Therefore, this learning media can be mass-produced to be disseminated to teachers who teach mathematics subjects both in the school environment as a place of research and in other Vocational High Schools in drawing subjects..

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